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Notice of Allowability

Application No.

10/648,583

Applicant(s)

BASHAM ET AL.

Examiner

Philip B. Tran

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/25/2007.
2. ☒ The allowed claim(s) is/are 1-5, 7-10, 12-17, 19-23, 25-27 and 28-30 (renumbered as claims 1-26).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Philip Tran
PHILIP TRAN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Kunzler (Reg. No. 38,527) and Mr. Thorpe (Reg. No. 54,491), the undersigned, on Dec 17, 2007. The application has been amended as follows:

IN THE CLAIMS:

Claims of the invention have been amended as follows:

1. (Currently Amended) A[[n]] **system** apparatus **having a communication module, a first translation module, a second translation module, a first transmission module, and a second transmission module stored in memories** for communicating control messages between a media library manager and a storage device, **the system** comprising:

[[a]] **the** communication module configured to direct **first** control messages between the media library manager and the storage device through a host, the host coupled to the media library manager by a control path and to the storage device by a data path;

[[a]] the first translation module configured to distinguish the first control messages received over the control path at the host by detecting an identifier in the a header of each of the first control messages, translate the first control messages received over the control path into first transport data messages and ~~translate transport data messages received over the data path at the storage device to control~~ messages, wherein each of the first transport data messages comprises a Send Simulated Library Message (SSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the first [[a]] control messages in an unaltered form; [[and]]

the second translation module configured to translate second control messages received from the storage device into second transport data messages, wherein each of the second transport data messages comprises a Receive Simulated Library Message (RSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the second control messages in an unaltered form;

the second translation module further configured to translate the first transport data messages received over the data path at the storage device into the first control messages;

the first translation module further configured to translate the second transport data messages received over the data path at the host into the second control messages;

[[a]] the first transmission module configured to send the first transport data messages over the data path to the storage device and control messages from the storage device over the control path to the media library manager[[.]] ; and

the second transmission module configured to send the second transport data messages over the data path to the host.

2. (Currently Amended) The system apparatus of claim 1, further comprising the media library manager polling [[a]] the storage device for a response control message subsequent to sending [[a]] the first control message to the storage device.

3. (Currently Amended) The system apparatus of claim 1, further comprising the host periodically polling a plurality of storage devices coupled to the data path for the second control messages for the media library manager.

4. (Currently Amended) The system apparatus of claim 1, further comprising a storage device notifying the host of [[a]] the second control message for the media library manager and the host transferring the second control message from the storage device to the media library manager in response to a message from the media library manager.

5. (Currently Amended) The system apparatus of claim 1, wherein the media library manager and storage device are configured to exchange control messages with the host.

6. (Canceled)

7. (Currently Amended) A[[n]] system apparatus for communicating control messages between a media library manager and a plurality of storage devices, comprising:

a media library manager configured to direct first control messages for a plurality of storage devices over a host control path;

a host coupled to the host control path and configured to distinguish the first control messages received over the host control path at the host by detecting an identifier in [[the]] a header of each of the first control messages, transmit the first control messages as first transport data messages on a data path connecting the host to the plurality of storage devices, wherein each of the first transport data messages comprises a Send Simulated Library Message (SSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the first control messages in an unaltered form, and translate second transport data messages received over the data path into second control messages and transmit [[as]] the second control messages on the host control path connecting the host to the media library manager; and

wherein the plurality of storage devices are configured to translate the first transport data messages received over the data path into the first control messages and the second control messages for the media library manager into the second transport data messages comprising a Receive Simulated Library Message (RSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the second control messages in an unaltered form for transmission over the data path to the host.

8. (Currently Amended) The system apparatus of claim 7, wherein the media library manager is configured to poll a storage device for a response control message subsequent to sending [[a]] the first control message to the storage device.

9. (Currently Amended) The system apparatus of claim 7, wherein the host periodically polls the storage devices coupled to the data path for the second control messages for the media library manager.

10. (Currently Amended) The system apparatus of claim 7, wherein a storage device notifies the host of [[a]] the second control message for the media library manager and the host transfers the second control message from the storage device to the media library manager in response to a message from the media library manager.

11. (Canceled)

12. (Currently Amended) A system for communicating control messages between a media library manager and a plurality of storage devices over a data path, comprising:

a media library comprising the media library manager configured to automatically mount and unload media cartridges; and

a host configured to communicate over a host control path with the media library manager to access data on a specific media cartridge and to communicate with one or more storage devices over a data path to exchange data,

the host further configured to relay first and second control messages between the media library manager and the plurality of storage devices by

distinguishing the first control messages by detecting an identifier in [[the]] a header of the first control messages,

translating between the first control messages and first transport data messages, wherein each of the first transport data messages is a storage device bound transport data message and comprises a Send Simulated Library Message (SSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates [[a]] each of the first control messages in an unaltered form, and

translating between second transport data messages and second control messages, wherein each of the second transport data messages is a library media manager bound transport data message and comprises a

Receive Simulated Library Message (RSLIM) Small Computer Systems

Interface (SCSI) Command Descriptor Block (CDB) that encapsulates [[a]]

each of the second control messages **in an unaltered form, and**

wherein the **first and second** transport data messages travel[[ing]] over the data path and the **first and second** control messages travel[[ing]] over the host control path.

13. (Currently Amended) The system of claim 12, wherein the media library manager polls the storage devices for a response control message subsequent to sending [[a]] **the first** control message to the storage device.

14. (Currently Amended) The system of claim 12, wherein the host periodically polls the storage devices coupled to the data path for **the second** control messages for the media library manager.

15. (Currently Amended) The system of claim 12, wherein a storage device notifies the host of [[a]] **the second** control message for the media library manager and the host transfers the **second** control message from the storage device to the media library manager in response to a message from the media library manager.

16. (Currently Amended) The system of claim 12, wherein the media library manager is configured to exchange **the first** control messages for storage devices over the host control path instead of a direct communication link to the storage devices.

17. (Original) The system of claim 12, wherein the host is configured to function as a storage device controller integrated within the media library and coupled to a plurality of storage devices that have no direct communication link to the media library manager.

18. (Canceled)

19. (Currently Amended) A method for communicating control messages between a media library manager and a storage device, comprising:

directing **the** control messages between the media library manager device and the storage device through a host, the host coupled to the media library manager by a control path and to the storage device by a data path;

distinguishing, **at the host, first** control messages received over the control path by detecting an identifier in **[[the]] a** header of **each of the first** control messages;

translating, **at the host, the first** control messages received over the control path **into first** transport data messages, wherein each **first** transport data message comprises a **Send Simulated Library Message (SSLIM) Small Computer Systems**

Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the first control messages in an unaltered form; and

translating, at the host, second transport data messages received over the data path into second control messages, and comprising wherein each of the second transport data message comprises a Receive Simulated Library Message (RSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates [[a]] each of the second control messages in an unaltered form to the control message;

sending from the host the first transport data messages over the data path to the storage device and the second control messages from the storage device over the control path to the media library manager; and

translating, at the storage device, the first transport data messages received by the storage device into the first control messages.

20. (Currently Amended) The method of claim 19, further comprising the media library manager polling a storage device for a response control message subsequent to sending [[a]] the first control message to the storage device.

21. (Currently Amended) The method of claim 19, further comprising the host periodically polling storage devices coupled to the data path for the second control messages for the media library manager.

22. (Currently Amended) The method of claim 19, further comprising:
notifying the host of [[a]] the second control message for the media library manager; and
transferring the second control message from the storage device to the media library manager in response to a message from the media library manager.

23. (Previously Presented) The method of claim 19, further comprising:
configuring a media library manager and a storage device to exchange control messages through the host.

24. (Canceled)

25. (Currently Amended) An apparatus for communicating control messages between a media library manager and a storage device, comprising:

memories having stored thereon:

means for directing the control messages between the media library manager and the storage device through a host, the host coupled to the media library manager by a control path and the storage device by a data path;

means for translating, at the host, first control messages received over the control path into first transport data messages, wherein each of the first transport data messages comprises a Send Simulated Library Message (SSLIM) Small Computer

Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates

each of the first control messages in an unaltered form; and

means for translating, at the host, second transport data messages received over the data path into **[[a]] second** control messages, **wherein each of the second**

transport data messages comprises a Receive Simulated Library Message

(RSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block

(CDB) that encapsulates each of the second control messages in an unaltered

form;

means for sending **the first** transport data messages over the data path to the storage device; **[[and]]**

means for sending the second control messages from the storage device over the control path to the media library manager; and

means for translating, **at the storage device, the first** transport data messages received by the storage device into **the first** control messages.

26. (Currently Amended) The apparatus of claim 25, further comprising means for polling a storage device for a response control message subsequent to sending **[[a]] the first** control message to the storage device.

27. (Currently Amended) The apparatus of claim 25, further comprising means for polling storage devices coupled to the data path for **the second** control messages for the media library manager.

28. (Currently Amended) An article of manufacture comprising a program storage medium readable by a processor and embodying one or more instructions executable by a processor to perform a method for communicating control messages between a media library manager and a storage device, the method comprising:

directing the control messages between the media library manager and the storage device through a host, the host coupled to the media library manager by a control path and the storage device by a data path;

distinguishing, at the host, first control messages received over the control path by detecting an identifier in ~~[[the]]~~ a header of each of the first control messages;

translating, at the host, the first control messages into first transport data messages, wherein each first transport data message comprises a Send Simulated Library Message (SSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the first control messages in an unaltered form, ~~and transport data messages received over the data path and comprising a RSLIM SCSI CDB that encapsulates a control message to the control message;~~

sending the first transport data messages over the data path from the host to the storage device ~~and control messages from the storage device over the control path to the media library manager; [[and]]~~

translating the first transport data messages received by the storage device into the first control messages~~[[.]]~~ ;

translating, at the storage device, second control messages into second transport data messages, wherein each second transport data message comprises a Receive Simulated Library Message (RSLIM) Small Computer Systems Interface (SCSI) Command Descriptor Block (CDB) that encapsulates each of the second control messages in an unaltered form;

sending the second transport data messages over the data path from the storage device to the host;

translating, at the host, the second transport data messages received over the data path into the second control messages; and

sending the second control messages over the control path from the host to the media library manager.

29. (Currently Amended) The article of manufacture of claim 28, wherein the method further comprises polling a storage device for a response control message subsequent to sending [[a]] **the first** control message to the storage device.

30. (Currently Amended) The article of manufacture of claim 28, wherein the method further comprises the host polling storage devices coupled to the data path for **the second** control messages for the media library manager.

REASONS FOR ALLOWANCE

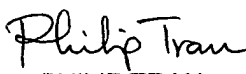
3. Claims 1-5, 7-10, 12-17, 19-23 and 25-30 (renumbered as claims 1-26) are allowable over the prior art of record.

4. This communication warrants no examiner's reason for allowance, as applicant's reply makes evident the reason for allowance, satisfying the record as whole as required by rule 37 CFR 1.104 (e). In this case, the substance of applicant's remarks in the Amendment filed on 25 September 2007 with respect to the amended claim limitations and further with the Examiner's Amended claims attached thereon point out the reason claims are patentable over the prior art of record. Thus, the reason for allowance is in all probability evident from the record and no statement for examiner's reason for allowance is necessary (see MPEP 13202.14).

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip B. Tran whose telephone number is (571) 272-3991. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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